

REMARKS

Claims 1-35 are pending in the present application. Claims 1-3, 7, 12-14, 18, 23-25 and 29 have been amended herewith. Reconsideration of the claims is respectfully requested.

I. 35 U.S.C. § 102, Anticipation

The Examiner rejected Claims 1-35 under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 5,898,687 to Harriman et al. This rejection is respectfully traversed.

With respect to Claim 1, such claim recites the claimed feature of "identifying a plurality of queue pairs that are members of the multicast group", where the multicast group is identified by an identifier in a received data packet (per step 1 of Claim 1). In rejecting this aspect of Claim 1, the Examiner states that this claimed step is "inherent in multicasting systems". Applicants respectfully submit that in order to establish inherency, and as recently stated by the Federal Circuit, "the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." *In re Robertson*, 169 F.3d 743, 745 [49 USPQ2d 1949] (Fed. Cir. 1999); see also *Continental Can Co. U.S.A., Inc. v. Monsanto Co.*, 948 F.2d 1264, 1268 [20 USPQ2d 1746] (Fed. Cir. 1991). Such inherency may not be established by "probabilities or possibilities." *Continental Can*, 948 F.2d at 1269 (quoting *In re Oelrich*, 666 F.2d 578, 581 [212 USPQ 323] (C.C.P.A. 1981)). Applicants urge that there is no extrinsic evidence of record that makes it clear that the missing descriptive matter is necessarily present in the thing described in the reference. In fact, the reference explicitly states that its queue pairs are used in a totally different fashion – to implement a "fair-sharing" arbitration policy that services the unicast and multicast queues in parallel based on the relative priority levels of the queues. Specifically, each port of the switch has a unicast/multicast output queue pair for each predetermined priority level, and at each cell time, the arbitration mechanism evaluates the states of these queue pairs and transmits a cell from a non-empty pair having the highest priority (col. 3, lines 4-13; col. 7, lines 13-55; Figure 3). In contrast, Claim 1 recites use of queue pairs in a totally different fashion. Specifically, Claim 1 includes a step of "identifying a plurality of queue pairs that are members of the multicast group", where the multicast group is identified by an identifier in a received data packet. Thus, not only is this claimed feature not necessarily present in the thing described in the

reference, since the Harriman queue pairs are pairs of unicast/multicast queues, the Harriman queue pairs are not members of a multicast group since one-half of a given queue pair is associated with a unicast (and not multicast) queue (see Figure 3). Thus, there is no teaching – either explicitly or under the principals of inherency – of the specific claimed step of “identifying a plurality of queue pairs that are members of the multicast group”, where the multicast group is identified by an identifier in a received data packet. It is therefore urged that Claim 1 is not anticipated by the cited reference, as every element of the claimed invention is not identically shown in a single reference.

Still further with respect to such inherency assertion, Applicants respectfully submit that the Examiner has failed to meet their burden of proof in establishing inherency of this claimed feature. As stated by the Federal Circuit (and its predecessor court, a.k.a. the CCPA), in relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. *In re King*, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986); *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983); *In re Oelrich*, 666 F.2d 578, 212 USPQ 323 (CCPA 1981); *In re Wilding*, 535 F.2d 631, 190 USPQ 59 (CCPA 1976); *Hansgirk v. Kemmer*, 102 F.2d 212, 40 USPQ 665 (CCPA 1939). The Examiner has provided no basis in fact or technical reasoning to reasonably support this inherency assertion with respect to the claimed “identifying” step. The Examiner states as a conclusion that this claimed step is “inherent in multicast systems”, which fails to meet the burden of proof required for a proper inherency determination or assertion, per Federal court requirements as described above. Thus, Claim 1 is further shown to have been erroneously rejected, as the Examiner merely makes an inherency allegation without providing any technical reasoning to support such assertion.

Applicants initially traverse the rejection of Claims 2-11, 34 and 35 for reasons given above with respect to Claim 1 (of which Claims 2-11, 34 and 35 depend upon).

Further with respect to Claim 2 (and dependent Claim 3), Applicants urge that the cited reference does not teach the claimed feature of “wherein the data packet is received in a channel adapter of an end node”. Rather, the cited passage teaches an intermediate network switch with an input and output port, and where data in the input port is switched to an output port for subsequent transmission on the network (col. 1, lines 5-8 and 20-24). An intermediate network

switch, and a description of its internal processing, does not teach or otherwise suggest an end node, or the receiving of a data packet in a channel adapter of such (missing) end node. Claim 2 has been amended to emphasize this distinction. Thus, Claim 2 (and dependent Claim 3) is further shown to not be anticipated by the cited reference.

Further with respect to Claim 3, such claim recites "wherein delivering the data packet to each of the plurality of queue pairs that are members of the multicast group includes replicating the data packet for each of the plurality of queue pairs that are internal to the end node". As can be seen, this aspect of data packet delivery is with respect to queue pairs that are *internal to the end node*, and in particular the data packet (that was received) is replicated for each of the plurality of queue pairs that are internal to the end node. The teachings of the cited reference *expressly teach away* from replicating received data packets – choosing instead to replicate a *pointer* to a single copy of the received data packet (col. 2, lines 8-12; col. 4, lines 56-64; col. 5, lines 42-48). This pointer replication is done in lieu of replicating data packets in the queues in order to increase the rate of replication while also reducing memory/storage capacity requirements (col. 6, lines 15-39).

Applicants have also amended Claim 3 in accordance with the embodiment shown in Figure 4 to further distinguish Claim 3 from the teachings of the cited reference. It urged that since the cited reference is directed to a network switch, there is no ability to both originate and receive data packets from a given end node. Thus, it is urged that Claim 3 is not anticipated by the cited reference.

Further with respect to Claim 7, such claim recites a feature of "wherein identifying the plurality of queue pairs includes determining which queue pairs are associated with a destination local identifier in the data packet". As can be seen, a determination is made as to which queue pairs are associated with a destination local identifier in the data packet. In rejecting this aspect of Claim 7, the Examiner cites Harriman's teaching at col. 2, lines 1-11 and states that the claimed feature of Claim 7 is inherent. Applicants urge that since the cited reference teaches that its queue pairs are with respect to a paring of a unicast queue with a multicast queue, there would be no need or reason to determine which queue pairs are associated with a destination local identifier in the data packet, as the queue pairs as taught by the cited reference are used for two distinct operations with different types of received data packets – unicast data packets and multicast data packets. In other words, there is no one-to-one correspondence between a received

data packet and a queue pair, as one type of received data packet (unicast) is used for one half of a given queue pair (unicast queue shown in Figure 3), and another type of received data packet (multicast) is used for the other half of a given queue pair (multicast queue shown in Figure 3). Applicants have amended Claim 7 to further clarify this distinction. It is thus further urged that Claim 7 is not anticipated by the cited reference.

Further with respect to Claim 11, such claim recites "wherein one of the queue pair identifier columns associated with the destination local identifier serves as a link to another entry in the destination local identifier to queue pair lookup table". As can be seen, one of the lookup table columns serves as a link to another entry in the look-up table. The cited reference does not teach this claimed feature. In rejecting Claim 11, the Examiner cites the teachings of Harriman at col. 2, lines 52-65 as teaching this claimed feature. Applicants urge that while this passage describes a look-up table, where a connection address identifies a particular entry in the table, there is no teaching that this table has any column that is used to link to another entry in the same table. Instead, each entry is self-contained or standalone, where each asserted bit of a given table entry corresponds to a multicast output port (col. 5, lines 55-59) – and thus does not provide any type of link to another entry in the table. Thus, Claim 11 is further shown to not be anticipated by the cited reference.

Applicants traverse the rejection of Claims 12-22 for similar reasons to those given above with respect to Claim 1.

Applicants further traverse the rejection of Claim 13 (and dependent Claim 14) for similar reasons to the further reasons given above with respect to Claim 2.

Applicants further traverse the rejection of Claim 14 for similar reasons to the further reasons given above with respect to Claim 3.

Applicants further traverse the rejection of Claim 18 for similar reasons to the further reasons given above with respect to Claim 7.

Applicants further traverse the rejection of Claim 22 for similar reasons to the further reasons given above with respect to Claim 11.

Applicants traverse the rejection of Claims 23-33 for similar reasons to those given above with respect to Claim 1.

Applicants further traverse the rejection of Claim 24 (and dependent Claim 25) for similar reasons to the further reasons given above with respect to Claim 2.

Applicants further traverse the rejection of Claim 25 for similar reasons to the further reasons given above with respect to Claim 3.

Applicants further traverse the rejection of Claim 29 for similar reasons to the further reasons given above with respect to Claim 7.

Applicants further traverse the rejection of Claim 33 for similar reasons to the further reasons given above with respect to Claim 11.

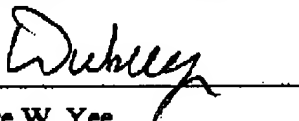
Therefore, the rejection of Claims 1-35 under 35 U.S.C. § 102 has been overcome.

II. Conclusion

It is respectfully urged that the subject application is patentable over the cited reference and is now in condition for allowance. The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,



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